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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,615	01/08/2004	Stuart W. Hayes	016295.1509 (DC-05592)	6328
23640	7590	12/02/2005	EXAMINER	
BAKER BOTTS, LLP			DINH, TUAN T	
910 LOUISIANA			ART UNIT	
HOUSTON, TX 77002-4995			PAPER NUMBER	
			2841	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/753,615

Applicant(s)

HAYES ET AL.

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/08/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7, drawn to a method of routing an electrical trace, classified in class 29, subclass 830.
 - II. Claims 8-15, drawn to a printed circuit board, classified in class 361, subclass 794.
 - III. Claims 16-20, drawn to an information handling system, classified in class 361, subclass 764.

The inventions are distinct, each from the other because of the following reasons:

Inventions II-III and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product of Group II-III as claimed can be made by another and materially different process such as forming a voltage plane on a first layer and a ground plane on a bottom or second layer of the PCB.

2. Inventions III and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP §

806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because in an invention of Group II does not require a memory coupling to a processor. The subcombination has separate utility such as a handling information system.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group I-II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. Szymczak, Brian and Examiner Nguyen, Dunghai on 10/18/05 a provisional election was made without traverse to prosecute the invention of Group III, claims 16-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-15 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, and also **canceled non-elected claims 1-15 without prejudice.**

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

8. Claim 1 is objected to because of the following informalities:

Claim 1, line 15, "an electrical trace" should be changed to - - the electrical trace
- -.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selna (U.S. Patent 5,640,048) in view of Teshome et al. (U.S. Patent 6,236,572).

As to claim 16, Selna discloses a BGA package for IC as shown in figure 3 comprising:

a circuit board (100) having an electrical trace (8, 10) and voltage and ground planes (260, 200, column 7, lines 56-59) forming on first and second layers, an electrical trace (8, 10, see figure 3) routed over a portion of the circuit board, the electrical trace (8, 10) including first and second paths (8C, 10C) such that the first path

references the ground plane and the second path references the voltage plane whereby the first path is substantially similar to the second path; and the first path electrically coupled to the second path at each of the ends of the paths (the electrical connection by conductor filled in vias 6C).

Selna does disclose the BGA package for a high-speed integrated circuit for a computer. It is well known in the art at the time the invention was made to have a computer having a memory chip electrically coupled to a processor (CPU) in order to facilitate and control data signals that being operated in the computer.

For the applicant benefic, Teshome et al. teaches a computer system as shown in figures 1-2 comprising a memory (24, 26) coupled to a processor (12), and a printed multilayer circuit board (28). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Teshome employ in the package being used in the computer of Selna in order to facilitate and control data signals for the computer.

As to claim 17, Selna discloses the first path (8C) is located at a distance from the ground plane (200) that is substantially equal to the distance the second path (10C) is located from the voltage plane (260).

As to claim 18, Selna discloses the ground and voltage planes (200, 260) are symmetrically oriented about the circuit board.

As to claim 19, Selna discloses the first and second paths (8C, 10C) and the second path are symmetrically oriented about the circuit board.

As to claim 20, Selna discloses in figure 3 the first path and the ground plane are a mirror image of the second path and the voltage plane.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fang and Sun et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan Dinh
November 25, 2005.